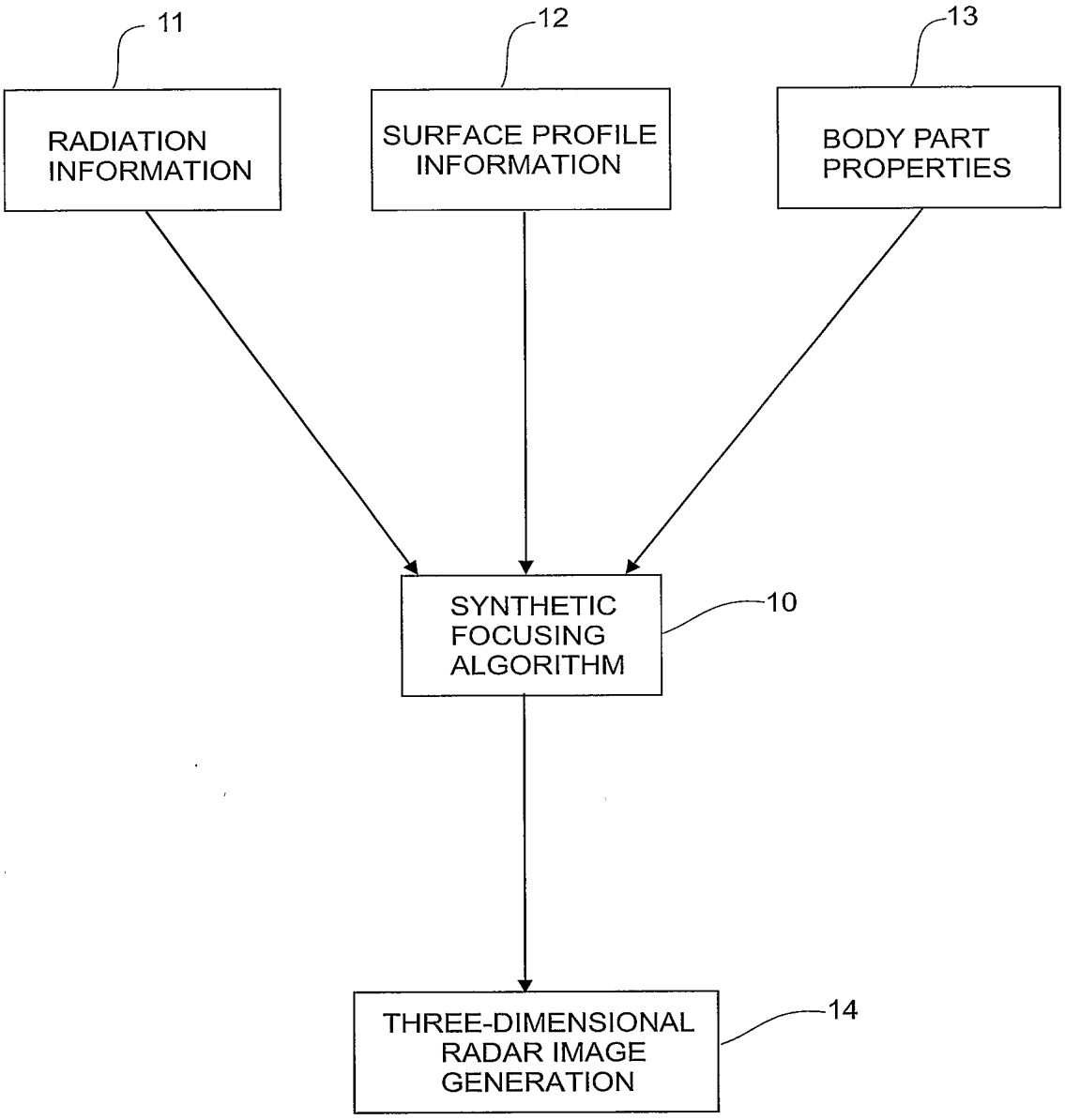
11
12
13
RADIATION INFORMATION
SURFACE PROFILE INFORMATION
BODY PART PROPERTIES
SYNTHETIC FOCUSING ALGORITHM
10
THREE-DIMENSIONAL RADAR IMAGE GENERATION
14

FIGURE 1

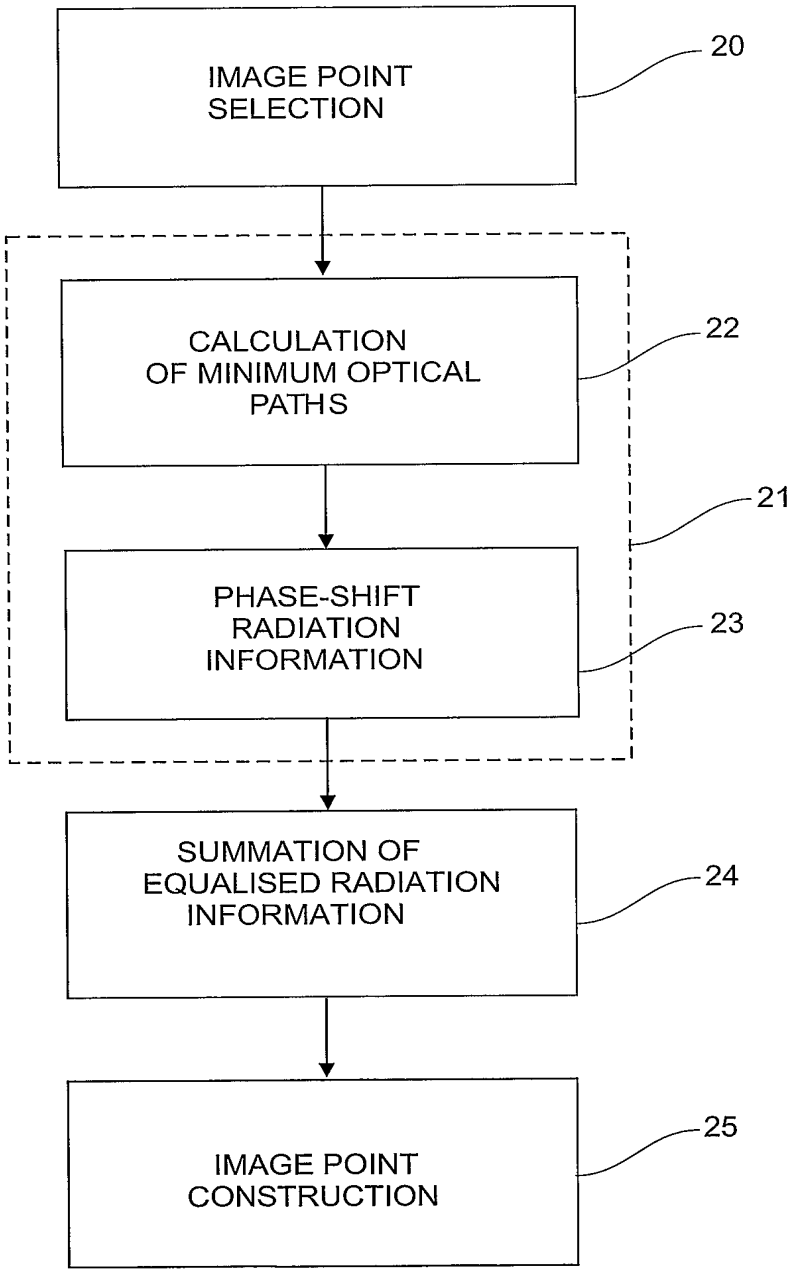
IMAGE POINT SELECTION
20
CALCULATION OF MINIMUM OPTICAL PATHS
22
21
PHASE-SHIFT RADIATION INFORMATION
23
SUMMATION OF EQUALISED RADIATION INFORMATION
24
IMAGE POINT CONSTRUCTION
25

FIGURE 2

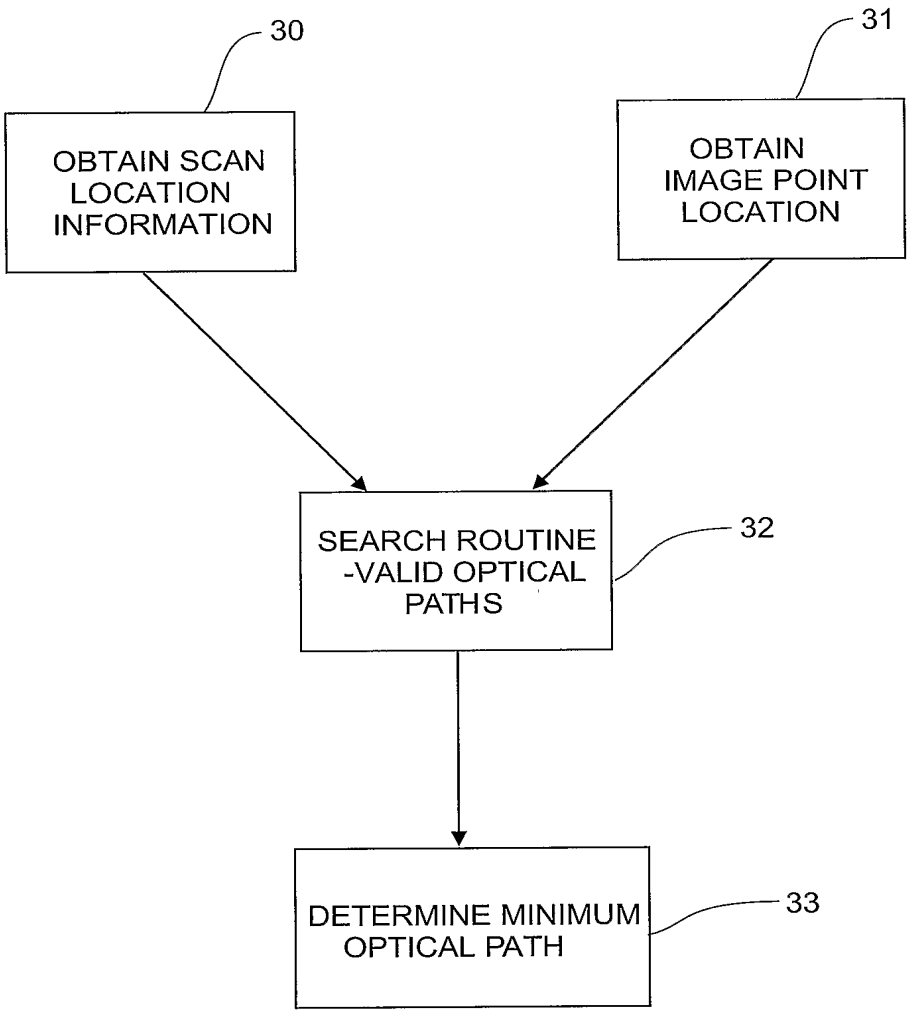
30
31
OBTAIN SCAN LOCATION INFORMATION
OBTAIN IMAGE POINT LOCATION
SEARCH ROUTINE -VALID OPTICAL PATHS
32
DETERMINE MINIMUM OPTICAL PATH
33

FIGURE 3

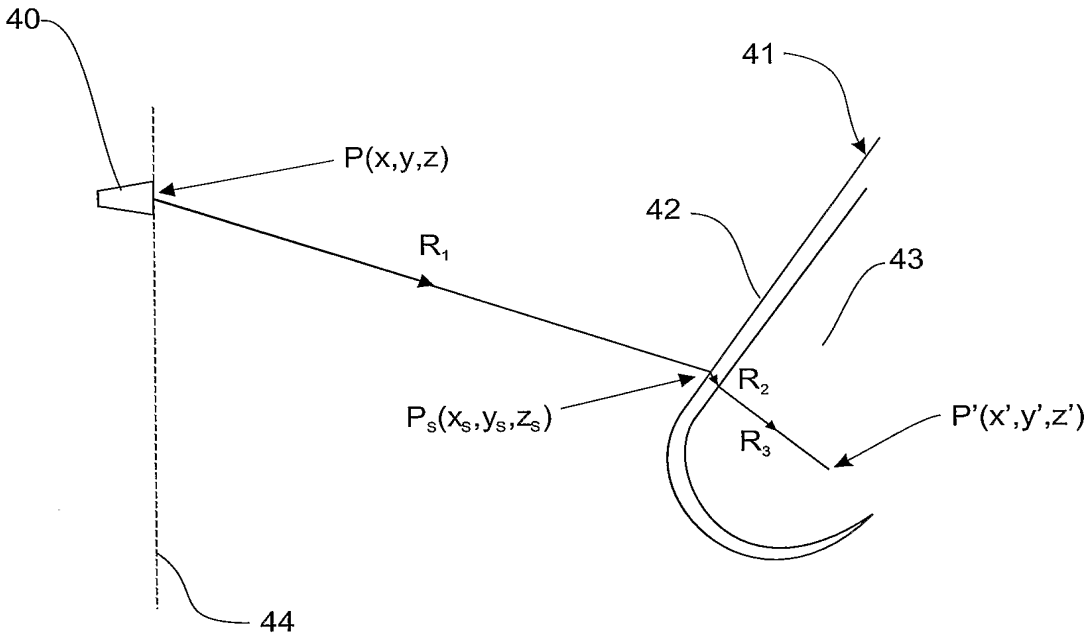

FIGURE 4

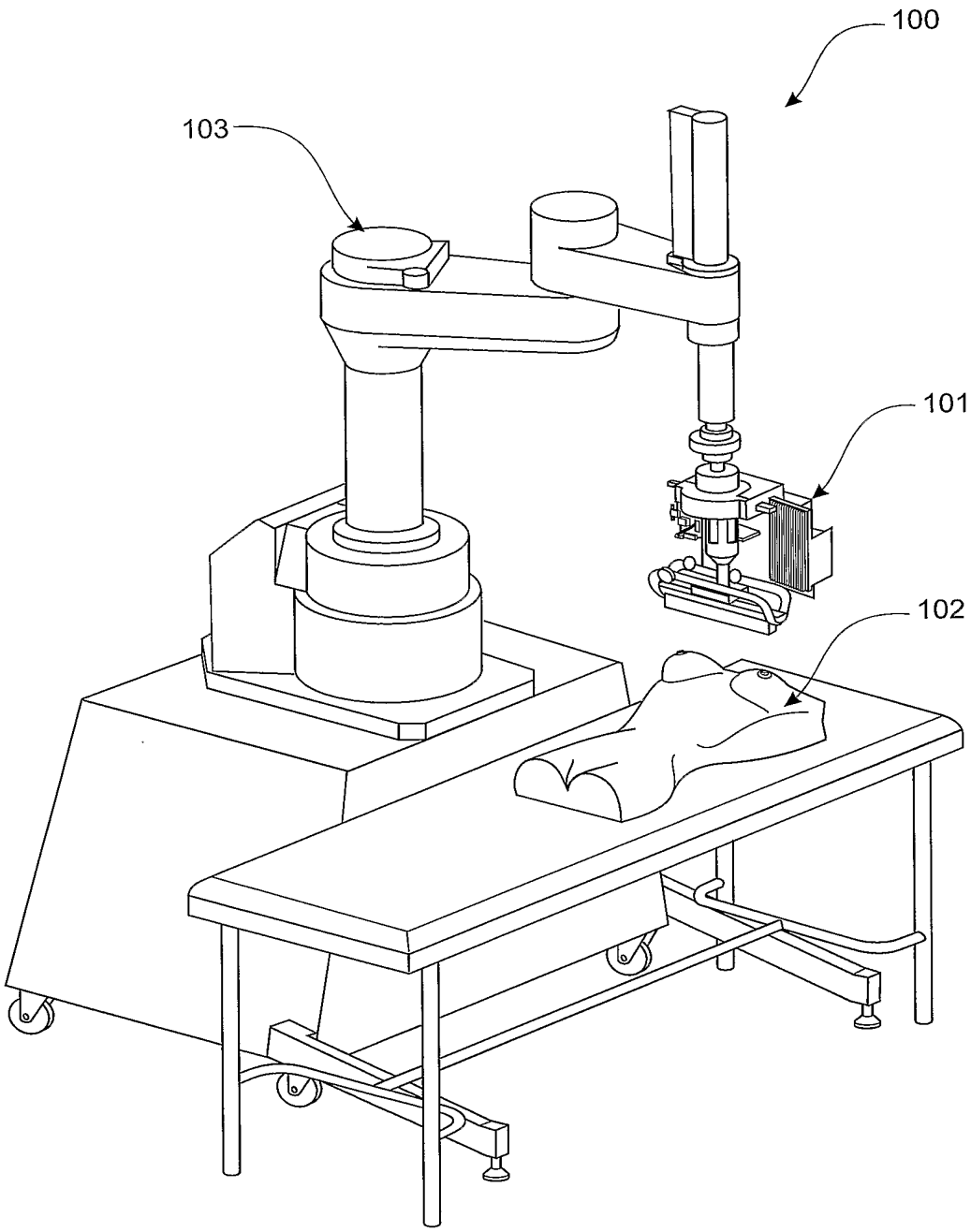

FIGURE 5

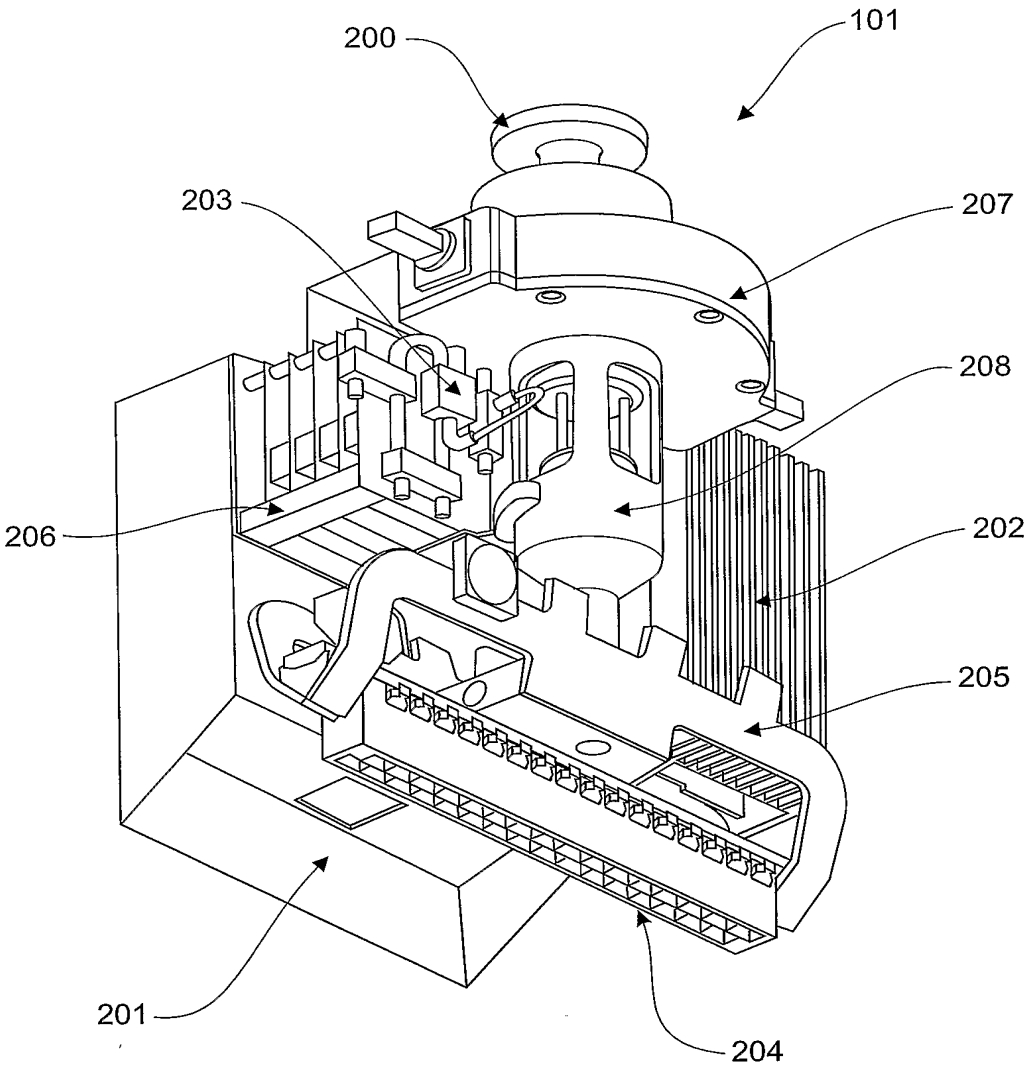

FIGURE 6

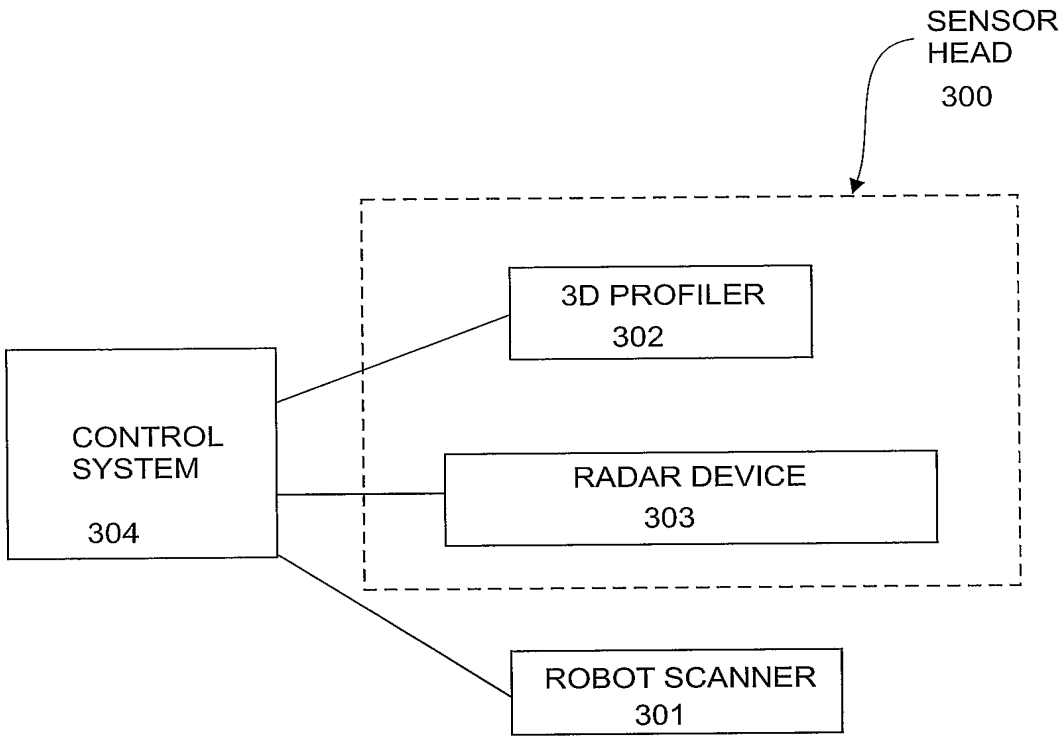
SENSOR
HEAD
300
3D PROFILER
302
CONTROL
SYSTEM
304
RADAR DEVICE
303
ROBOT SCANNER
301

FIGURE 7

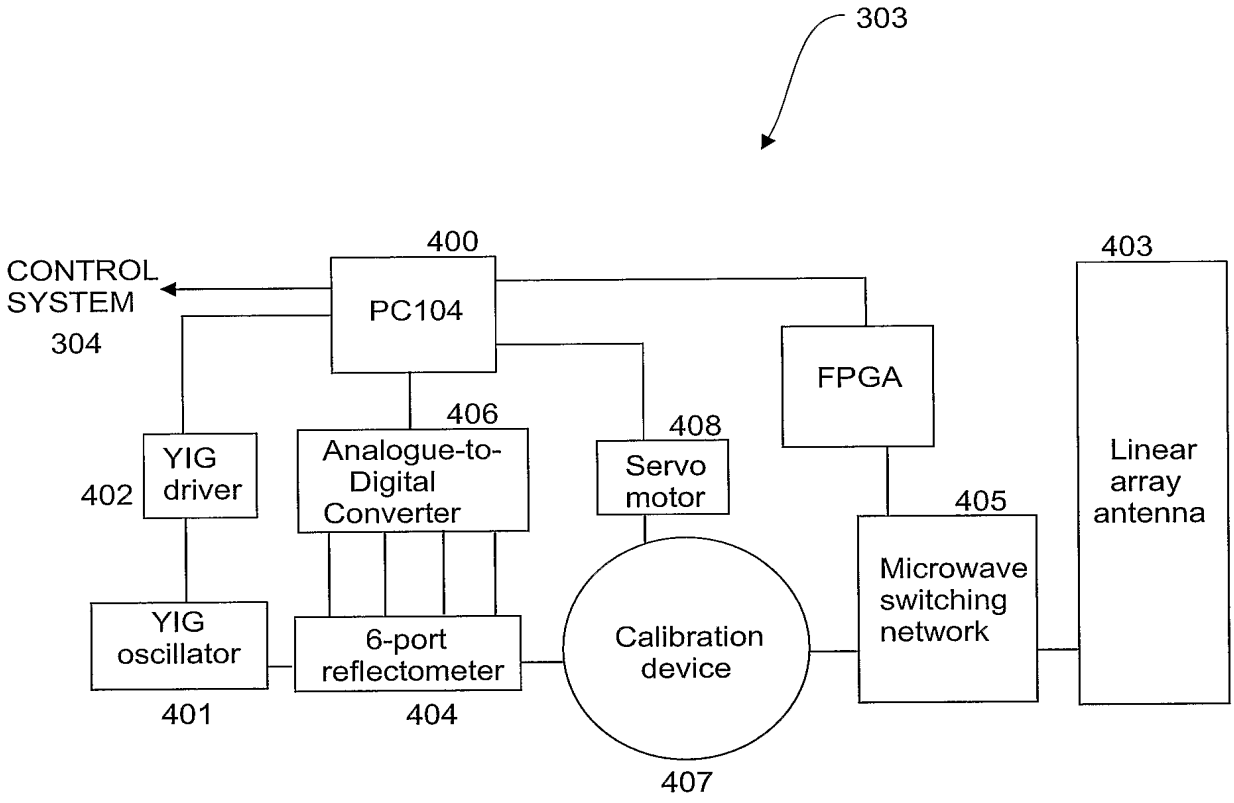
303
400
CONTROL SYSTEM
304
PC104
403
FPGA
406
408
YIG driver
402
Analogue-to-Digital Converter
Servo motor
405
Linear array antenna
Microwave switching network
YIG oscillator
6-port reflectometer
Calibration device
401
404
407

FIGURE 8

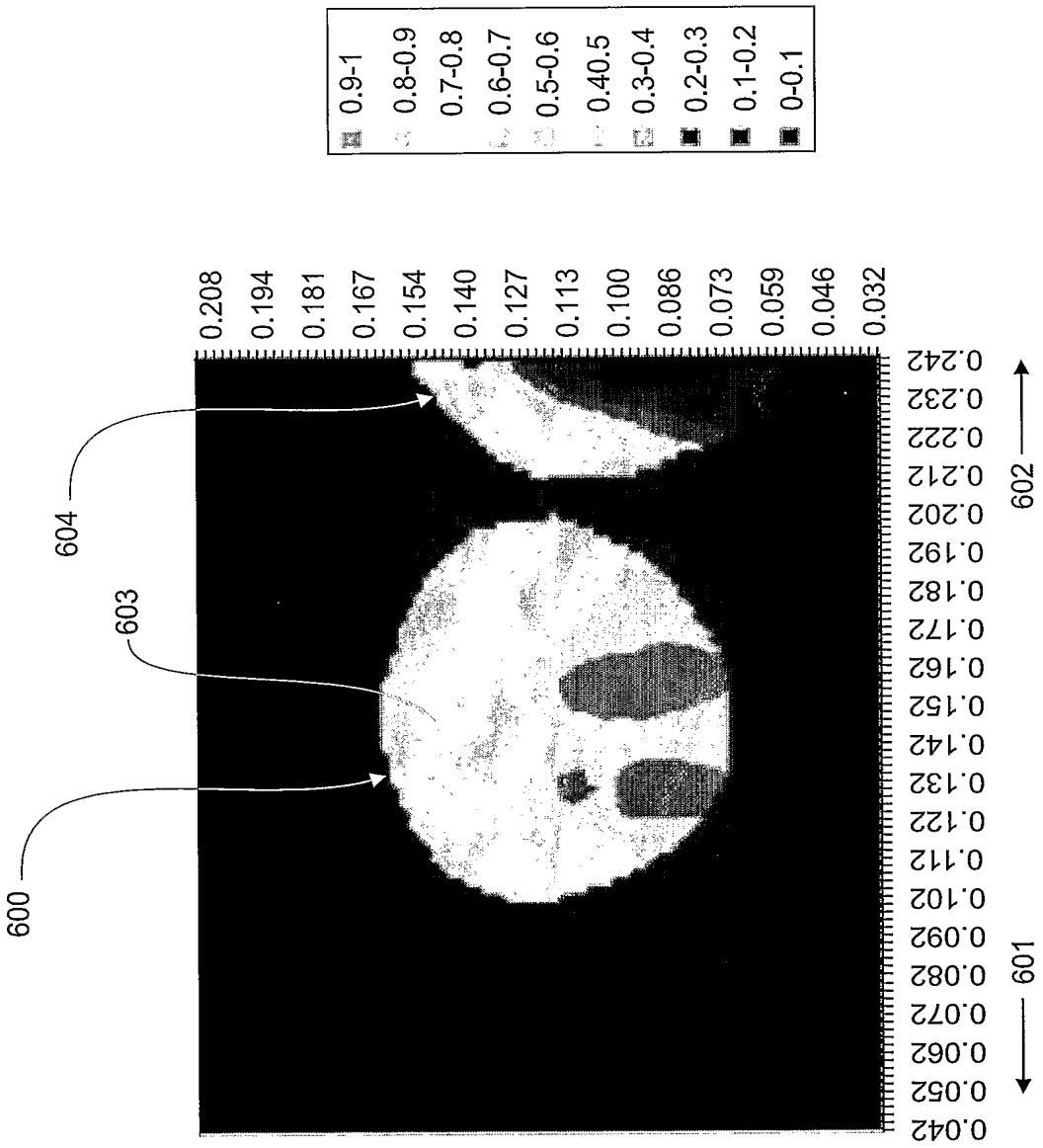
0.9-1
0.8-0.9
0.7-0.8
0.6-0.7
0.5-0.6
0.40.5
0.3-0.4
0.2-0.3
0.1-0.2
0-0.1
0.208
0.194
0.181
0.167
0.154
0.140
0.127
0.113
0.100
0.086
0.073
0.059
0.046
0.032
0.242
0.232
0.222
0.212
0.202
0.192
0.182
0.172
0.162
0.152
0.142
0.132
0.122
0.112
0.102
0.092
0.082
0.072
0.062
0.052
0.042
602
601
600
603
604

FIGURE 9

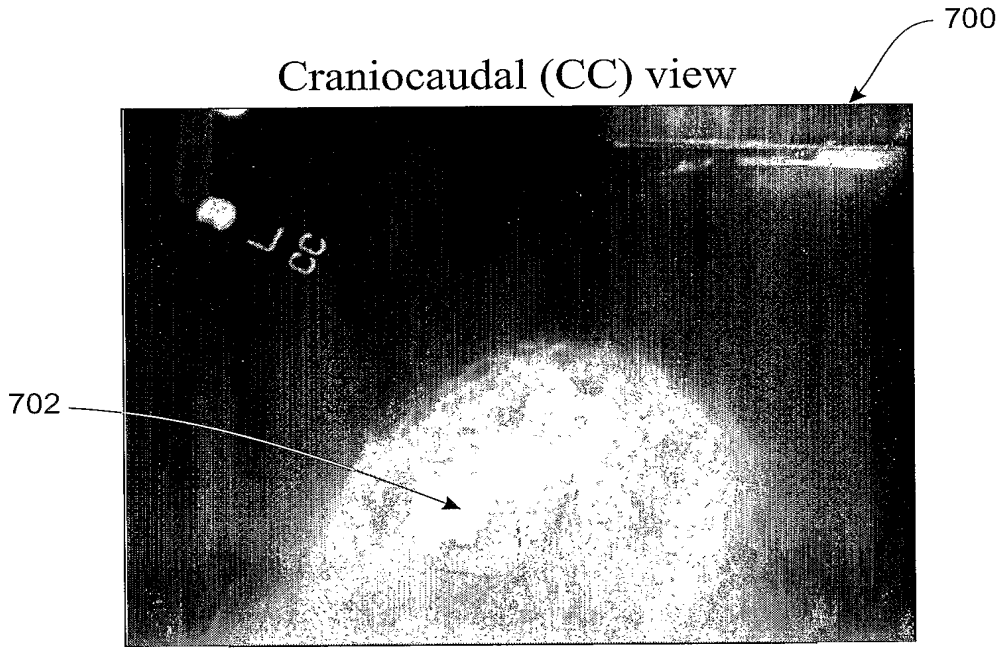

FIGURE 10a

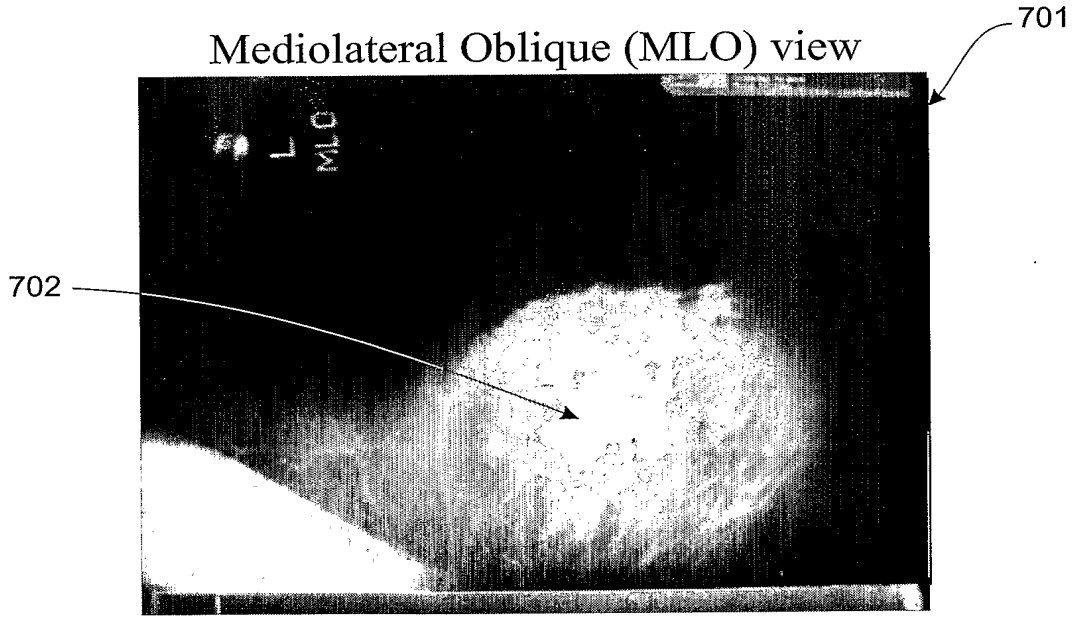

FIGURE 10b

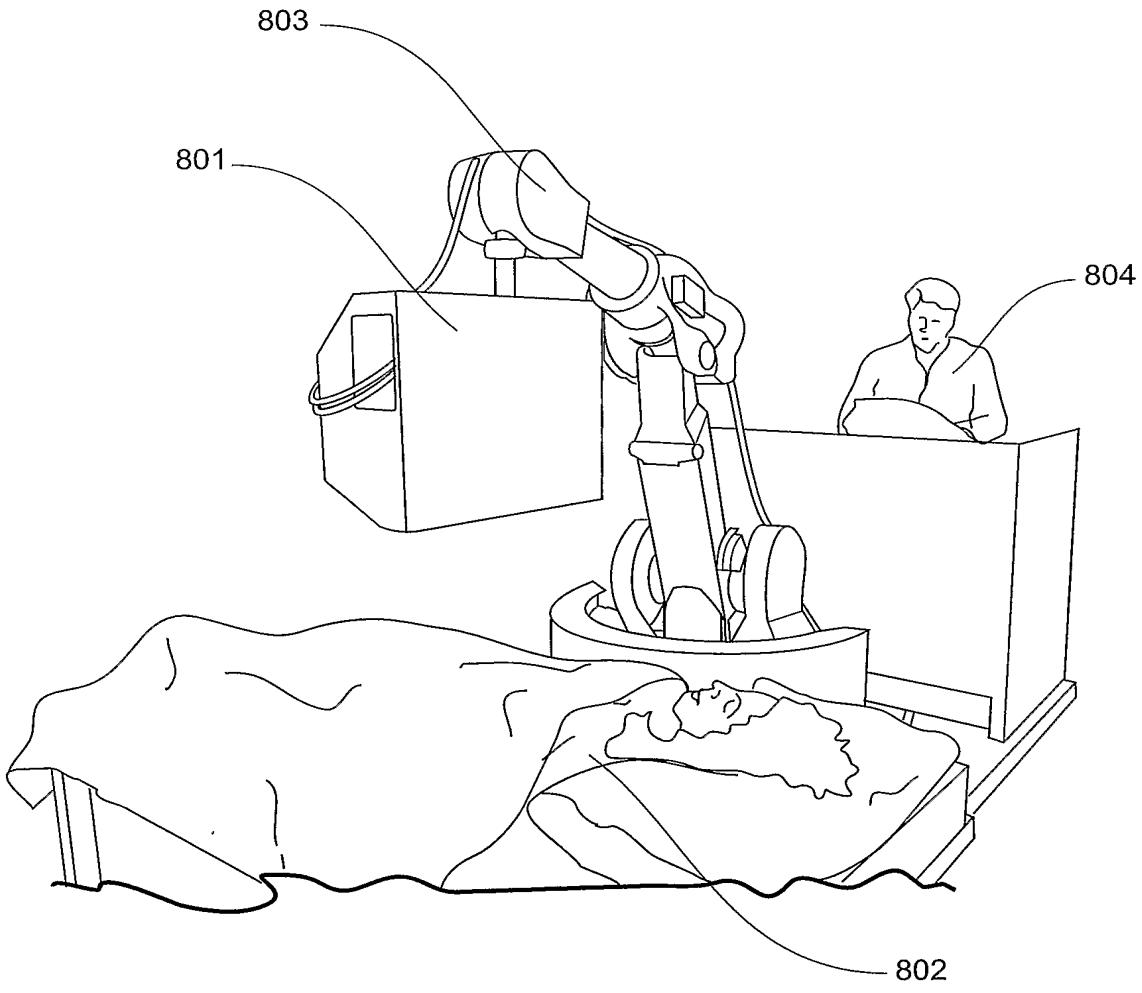

FIGURE 11